



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Tetsuo YAMAGUCHI

Conf.: 3642

Serial No. 10/046,141

Group Art Unit: 1752

Filed: January 16, 2002

Examiner: Thorl Chea

For: PHOTOTHERMOGRAPHIC MATERIAL

DECLARATION UNDER 37 CFR 1.132

Honorable Commissioner of Patents and Trademarks,
Washington, D.C. 20231

Sir:

I, Tetsuo YAMAGUCHI, a Japanese citizen, having a post office address of c/o Fuji Photo Film Co., Ltd., No.210, Nakanuma Minami-ashigara-shi, Kanagawa 250-0193 Japan, hereby declare and state that I received a Master's Degree from Tokyo University, Faculty of Engineering in March of 1988. I was employed by Fuji Photo Film Co., Ltd. in April of 1988 and since that time I have been principally engaged in research and development of photosensitive materials at the Ashigara Research Laboratories of said company.

I declare further that I am the inventor of the above-identified application and I have read all of the documents contained in the file wrapper of the above-entitled application.

I declare further that the test described below was conducted at my

direction and under my supervision and the test results are true and correct to the best of my knowledge.

EXPERIMENT AND RESULTS

Sample 3 of Ito et al., U. S. Patent No. 6,150,084 (Ito, '084) was prepared by the procedure set forth in the patent and the prepared sample is referred to as Sample A-1 hereafter. Samples A-2 to A-10 were prepared in the same manner as Sample A-1 except that the compounds shown in the table below were used additionally. The compounds of the present invention were added in 4.5×10^{-3} mol/Ag (1 mol), which is the same amount as used in Ito, '084 (see Table 23). The compound of formula (I) was added in 0.001 g/Ag (1 mol). These samples were evaluated in the same manner as described in Example 1 of the present specification.

Results are shown in the following table.

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Sample No.	Compound of the present invention (*)	Compound of formula (I)	Developed silver grain density (%)	Covering power (%)	Dmin	Dmax	Sensitivity	γ	Dmin (after leaving)	Note
A-1	—	—	100	100	0.10	1.7	0.70	2	0.17	Comparative (Sample 3 of Ito '084)
A-2	—	Compound 95 of JP '136	100	100	0.10	1.7	0.75	2	0.17	Comparative
A-3	C-1 of Ito '084	—	1400	230	0.11	3.7	1.00	14	0.22	Comparative (Sample 7 of Ito '084)
A-4	C-1 of Ito '084	Compound 95 of JP '136	1400	230	0.11	3.8	1.25	15	0.16	Invention
A-5	C-42 of Ito '084	—	1400	220	0.11	3.7	0.95	14	0.21	Comparative (Sample 11 of Ito '084)
A-6	C-42 of Ito '084	Compound 95 of JP '136	1400	220	0.12	3.8	1.20	15	0.16	Invention
A-7	C-8 of Ito '084	—	1400	230	0.12	3.7	0.95	14	0.21	Comparative (Sample 15 of Ito '084)
A-8	C-8 of Ito '084	Compound 95 of JP '136	1400	230	0.11	3.7	1.20	15	0.16	Invention
A-9	C-57 of Ito '084	—	1300	220	0.12	3.7	1.00	14	0.22	Comparative (Sample 19 of Ito '084)
A-10	C-57 of Ito '084	Compound 95 of JP '136	1300	220	0.12	3.8	1.20	15	0.16	Invention

(Note) "Compound of the present invention" denotes a compound that has a formula satisfying (iv) of Claim 1 and characteristic satisfying at least one of (i) to (iii) of Claim 1.

DISCUSSION

Ito '084 discloses photothermographic materials containing Compounds C-1, C-42, C-8 or C-57 but fails to disclose compounds of formula (I). The above table shows that Samples A-3, A-5, A-7 and A-9 representing the invention of Ito '084 exhibit poor sensitivity and high fog after leaving.

Samples A-4, A-6, A-8 and A-10, that correspond to Samples A-3, A-5, A-7 and A-9, respectively, contain a compound of formula (I) additionally. It is clear from the table that the former samples exhibit higher sensitivity and lower fog after leaving than the latter samples. The difference is significant. It can be concluded that high sensitivity and low fog after leaving can be achieved by using a compound of the present invention and a compound of formula (I) in combination.

Thus, it is shown that the claimed combination can only achieve low fog, high Dmax, improved sensitivity and high contrast. I believe that no one skilled in the art would have been motivated to select the compounds of the present invention among the various compounds exemplified in Ito '084 and then combine the selected compounds with compounds of formula (I) in order to attain low fog, high Dmax, improved sensitivity and high contrast, before the claimed invention was made. I also believe that no one skilled in the art could have predicted that the claimed combination actually produces low fog, high Dmax, improved sensitivity and high contrast, before the claimed invention was made. I trust that the claimed invention is patentable.

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I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application of any patent issuing thereon.

Dated this 8 day of July, 2004.

Tetsuo Yamaguchi

Tetsuo YAMAGUCHI

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